

Grade 5 School Garden Math Rubric

2015-2016 NYC End-of-Year Performance Tasks

Instructions

- The following page(s) contain the rubric to be used for the scoring of the above-named NYC Performance Task.
- The rubric is intended to be used in conjunction with the Scoring Guide for this task, which provides annotated samples of student work scored against the rubric.
- If the above-named NYC Performance Task is being administered for evaluative purposes, the End-of-Year task may be administered by the regular classroom teacher but **may not be scored** by the regular classroom teacher.
- All student work should be completed in the task booklet. All student work in the task booklet should be scored, regardless of whether the student completed or attempted every question.
- All scores should be recorded on the appropriate answer sheet.
- For assistance with scanning answer sheets, see the MOSL Assessment Administration Handbook.

	4 Points	3 Points	2 Points	1 Point	0 Points
T1 Trait 1 3.NF.1 (Q1)				<ul style="list-style-type: none"> The student gives the correct answer, $1/6$, or an equivalent fraction such as $10/60$. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T2 Trait 2 5.NF.1 (Q2)			<ul style="list-style-type: none"> The student gives the correct answer, $1/12$, or an equivalent fraction. ----- and ----- The student shows a correct process for finding the fraction of the garden that still needs to be planted, such as: $1/4 - 1/6 = 3/12 - 2/12 = 1/12$, or other valid work such as using the drawing of the garden. 	<ul style="list-style-type: none"> The student gives the correct answer, $1/12$, and no work is shown. ----- or ----- A correct process is started, but a computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T3 Trait 3 5.NF.1 (Q3)			<ul style="list-style-type: none"> The student gives the correct answer, $7/20$, or an equivalent fraction. ----- and ----- The student shows a correct process for finding the fraction of the garden that will grow watermelon, such as: $1/10 + 1/4 = 2/20 + 5/20 = 7/20$, or other valid work such as using the drawing of the garden. 	<ul style="list-style-type: none"> The student gives the correct answer, $7/20$, and no work is shown. ----- or ----- A correct process is started, but a computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T4 Trait 4 5.NF.4a (Q4)			<ul style="list-style-type: none"> The student gives the correct answer, $1/20$, or an equivalent fraction such as $3/60$. ----- and ----- The student writes a correct equation for finding the fraction of the garden that will be used to grow carrots, such as: $3/20 \times 1/3 = 1/20$ or other valid work is shown such as using the drawing of the garden. 	<ul style="list-style-type: none"> The student gives the correct answer, $1/20$, and no work is shown. ----- or ----- A correct process is started, but a computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T5 Trait 5 5.NF.2 (Q5)			<ul style="list-style-type: none"> The student gives the correct answer, $11/20$. ----- and ----- The student explains that their answer is reasonable using evidence such as: $9/20 + 1/20 = 1/2$, and $1/10 > 1/20$, so the total will be a little more than $1/2$, or other valid explanation. 	<ul style="list-style-type: none"> The student gives the correct answer, $11/20$, but does not estimate to explain the work. ----- or ----- A correct process is started, but a computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T6 Trait 6 5.NF.3 (Q6)			<ul style="list-style-type: none"> The student gives the correct answer, $5 \frac{1}{3}$ plots. ----- and ----- The student shows correct work, such as: $16 \div 3 = 5 \frac{1}{3}$, or other valid work such as using the drawing of the garden. 	<ul style="list-style-type: none"> The student gives the correct answer, $5 \frac{1}{3}$ plots, and no work is shown. ----- or ----- A correct process is started, but computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.

	4 Points	3 Points	2 Points	1 Point	0 Points
T7 Trait 7 5.NF.7b (Q7)			<ul style="list-style-type: none"> The student gives the correct answer, 72 students. ----- and ----- The student shows correct work, such as: $12 \div \frac{1}{6} = 72$ or $12 \times 6 = 72$, or other valid work such as using the drawing of the garden. 	<ul style="list-style-type: none"> The student gives the correct answer, 72 students, and no work is shown. ----- or ----- A correct process is started, but a computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.
T8 Trait 8 5.NF.7a (Q8)			<ul style="list-style-type: none"> The student gives the correct answer, $\frac{1}{60}$. ----- and ----- The student shows correct work, such as: $\frac{1}{30} \div 2 = \frac{1}{60}$ or $\frac{1}{30} \times \frac{1}{2} = \frac{1}{60}$, or other valid work such as using the drawing of the garden. 	<ul style="list-style-type: none"> The student gives the correct answer, $\frac{1}{60}$, and no work is shown. ----- or ----- A correct process is started, but a computational error leads to an incorrect answer. 	<ul style="list-style-type: none"> Makes no attempt or answers incorrectly.

Level 4 Exceeding Standards 13 - 15 points	Level 3 Meeting Standards 9 - 12 points	Level 2 Approaching Standards 5 - 8 points	Level 1 Attempting Standards 0 - 4 points
<p>Student demonstrates deep understanding of applying the four operations to solving problems with fractions (all questions)¹. Student uses common denominators for adding and subtracting fractions (all questions). Student is comfortable interpreting fractions as division (Q6, Q7, Q8) and uses estimation to check the reasonableness of results (Q5). Student sees the relationship between division and multiplication in fraction operations (Q7, Q8).</p>	<p>Student demonstrates understanding of applying the four operations to solving problems with fractions. Student attempts using common denominators to add and subtract fractions, but with minor errors. Student interprets fractions as division. Student uses estimation but may make errors comparing fractions. Student knows that there is a relationship between multiplication and division in fraction operations but may not make that clear. Minor errors occur.</p>	<p>Student is only able to be successful on part of the performance task. Student attempts to calculate quantities in the questions involving common denominators to add and subtract fractions, but with major errors that result in a misunderstanding of the concept. Student is likely to calculate multiplication of fractions correctly, but may struggle with division and seeing its relationship to multiplication. Student may struggle with applying estimation to check the reasonableness of results.</p>	<p>Student demonstrates minimal success on the task. There are some attempts, but complete work does not exist. Student is likely to calculate quantities in questions 1 and 4, but struggles with other operations with fractions. Student struggles with reasoning and explaining work.</p>
<p>Student's response meets the demands of nearly all of the tasks as defined by the Common Core standards, with few or no errors. Student's response shows a deep understanding of the problem (all work shown). Student is able to build a logical progression of statements to explain thinking. Student's response routinely interprets mathematical results in the context of the situation (Q6). The communication is clear (all work). All of the steps are included so that the reader does not need to infer how and why decisions are made (all work shown for all questions). Mathematical representation is actively used to communicate the solution to the problem. There is precise and appropriate use of mathematical terminology and notation (all work shown for all questions). Student often discerns patterns or structures and makes connections between quantities and representations (Q7).</p>	<p>Student's response meets the demands of nearly all of the tasks as defined by the Common Core standards, with few errors. For most of the task, student's response shows broad understanding of the problem and the major concepts necessary for a solution. Student explains the problem and describes the solution path. Effective mathematical reasoning is used. There is a sufficiently clear communication to be able to follow reasoning. There is appropriate use of accurate mathematical representation. There is effective use of mathematical terminology and notation. Student makes sense of quantities and their relationships in the problem situations. Student might notice patterns or structures and make connections between quantities and representations.</p>	<p>Student's response shows some of the elements of performance that the tasks demand and some signs of a coherent approach to problem solving as defined by the Common Core standards. Student uses a strategy that is partially useful, leading some of the way to a solution. The solution is not complete. The solution addresses some but not all of the mathematical components in the task. Some evidence of mathematical reasoning is evident. Some parts of the work may be correct. There is an incomplete explanation, or it may not be clearly presented. There is some use of appropriate mathematical representation. There is some use of mathematical terminology and notation that is appropriate to the problem. Student may recognize some patterns or structures, but does not yet generalize or use them to solve the problem.</p>	<p>Student's response shows a few of the elements of performance that the tasks demand as defined by the Common Core standards. However, the misconceptions are substantial and require further instruction. There is no solution, or the solution has no relationship to the task. There is hardly any evidence of a strategy or procedure. There is hardly any evidence of mathematical reasoning. There are many errors in mathematical procedures. Lack of communication makes it difficult to follow student's reasoning, or it is unrelated to the problem. There is no use, or inappropriate use, of mathematical representation, mathematical terminology, and notation. Student is not yet recognizing patterns or the structure of the problem situation.</p>

¹This notation identifies the questions that relate to the holistic rubric criteria.